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COMPOUNDING AND THE STRUCTURE OF THE TANI LEXICON[1]

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Compounding in Tani appears to have been a process of disyllabification, where monosyllabic forms in Proto-Tani have been lexicalised as compounds. This has resulted in a interesting division in the Tani languages, with nouns and adjectives on the one hand being closely aligned, and verbs on the other behaving quite differently. This division is interesting because of the more usual alignment in Asian languages of adjectives with verbs, not nouns. The story of this division is traced through the lexicon, with evidence from morphology, tone, segmental phonology and syllable structure, all showing a shift towards greater agglutination in Tani languages.

Keywords: Tani, compounding, morphosyllabism, lexical evolution, Tibeto-Burman

1. INTRODUCTION

Proto-Tani (Tibeto-Burman > Tani), as partially reconstructed by Sun (1993) and continued by Post (in progress), shows signs of having been, or having had a near ancestor which was, a "morphosyllabic" language more or less according to the Mainland Southeast Asian prototype. However, the modern Tani languages are all synthetic and agglutinating, to varying degrees. One aspect of this overall shift in morphological typology appears to have been a progressive restructuring of the lexicon, in which a basic monosyllabism shifted to a basic disyllabism as what were previously productively formed collocations (compounds and prefixed roots) were lexicalised. In the process, a division emerged in at least some Tani languages in which nouns and adjectives were closely aligned in opposition to verbs. The nature of this division is the subject of the present paper.

In §2, we review the genetic and geographical context of the Tani languages. This is followed by some more background concerning the nature of "morphosyllabic" typology in §3; §3 also reviews some of the arguments in favour of recognising a typological shift in Tani from morphosyllabism to greater synthesis and agglutination. Section §4 describes the evolution and present state of the Tani lexicon, particularly as exemplified by the Lare dialect of Galo (Tani > Western > Galo) and we conclude with some further speculations in §5.

2. GENETIC AND GEOGRAPHICAL CONTEXT OF THE TANI LANGUAGES

Following Sun's (1993) landmark study, it is now possible to identify the Tani languages (formerly known as "Abor-Miri-Dafla" or "Mirish") as a distinct branch of Tibeto-Burman (TB). Its closest affinities are with the Digarish (Taraon-Idu Mishmi) languages to the east/southeast of the Tani area; affinities also exist to Hrusish and Mizu Mishmi (Kaman), although the possibility of higher-order groupings has not yet been extensively researched. Internally, the primary division in Tani is between an Eastern and a Western branch. Figure 1 reproduces Sun's (1993)

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provisional Tani stammbaum (slightly adjusted), which is constructed on the basis of shared innovations and retentions in the segmental phonology as well as lexical isoglosses.

Eastern Tani languages are, in general, more conservative than Western Tani in segmental phonology, and are also relatively more synthetic and agglutinating. Western Tani languages have undergone numerous coda-erosions and onset simplifications and mergers, and in some ways retain a less synthetic morphological profile. The lower-level subgrouping is more difficult, both since we continue to lack reliable data on any scale for most Tani languages, and since a number of innovations are shared among members of different branches.[2]

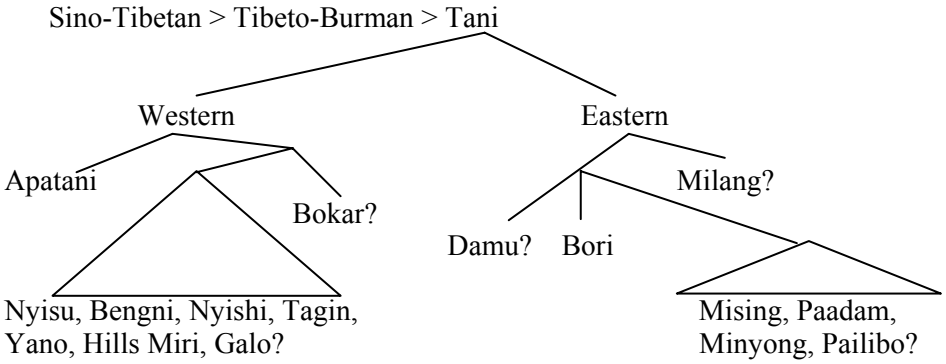
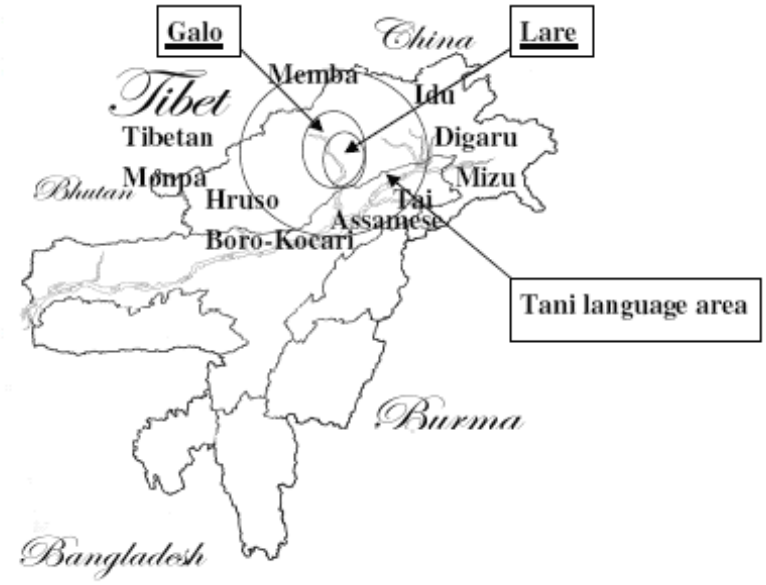


Figure 1. Provisional Tani subgroupings (based on Sun (1993:297); sister branchings are replaced by 'uncertainty' triangles; Minyong and Pailibo added)

The vast majority of the Tani languages are spoken in mountainous central Arunachal Pradesh, Northeast India, although the largest single population of Tani language speakers is the plains-dwelling Mising of Upper Assam. Small numbers of Tani language speakers are also found in Tibet, which is almost certainly the Tani place of origin (Blackburn 2003/2004) (Figure 2).



2 Probably, this complexity is reflective of the ongoing (mainly southward) migration of Tani peoples and their consequent shifts into and out of contact with one another.

Figure 2. The geographical and language contact situation of the Tani languages

There has been an enormous increase in the exposure of Tani speakers to Indo-European languages such as Hindi, Assamese, Nepali and English over the last 40-50 years, and numerous lexical items, grammatical morphemes and grammatical constructions have been borrowed from these languages, particularly into more southerly Tani languages such as Galo, Mising and Nyishi and in the speech of (usually multi-lingual) younger and well-educated speakers. However, relatively little evidence of any effects of Indic language contact prior to the immediate past has been found, and it is doubtful that Indic language contact alone can account for the shift in morphological typology that seems to have occurred in Tani.

3. TYPOLOGICAL DRIFT IN TANI

3.1. Morphosyllabic typology

The useful term "morphosyllabic" was coined by Timothy Light in the context of tonogenesis theory (Light 1978), although it has regrettably gained little currency since. Found commonly in Mainland South East Asia, a prototypical morphosyllabic language exhibits a fundamental unity in which syllable = morpheme = word. Very little well-grammaticalised material is found, and affixal morphology in general is often lacking; instead, grammatical functions are most often coded by variants of lexical words. Accordingly, there is a strongly analytic, isolating grammar, with verb serialisation usually featuring prominently. Frequently, and perhaps typically, lexical tones are also found, and usually relate to a simple or simplifying segment inventory and canonical syllable structure. (1) briefly exemplifies these features in a fairly prototypical morphosyllabic language, Standard Thai. In the example, each word is monomorphemic and each morpheme is realised by a tone-bearing, monosyllabic, segmentally simple word; serialisation is the main grammatical strategy employed.

(1) T (khǎw)…kɔ̂ piin klàp khĥn paj kèp tɔɔ
(3) SFOC climb return ascend go collect continue
'So, (he) climbed back up and continued picking (pears).' (Post in press-a:7)[3]

3.2. Proto-Tani as a probable morphosyllabic language

There is a large body of evidence to support the notion that Proto-Tani (or Pre-Proto-Tani) was basically a morphosyllabic language, although we won't have space here to review everything in detail (more detailed arguments are to be found in Post (in progress)). However, we can note the following facts.

1) *Basically monosyllabic lexicon.* Almost all of the forms reconstructed by Sun (1993) represent monosyllabic roots. While roots are usually bound in modern Tani languages (either in the sense of being compound elements or in the sense of requiring an affix to occur as a

3 All data herein are from field texts, field elicitations, or published sources where noted, with the language codes T=Thai, G=Galo, M=Mising and A=Apatani given to the right of the numeral. Other language codes used include PTS=Proto-Tani Sun (1993) and PG=Proto-Galo. Tani language transcriptions have been regularised to follow IPA except where *c* = [tɕ] and *z* = [dʑ]. Thai transcription follows IPA except where *kh* = [k^h]. Note that in Tani transcription (unless otherwise noted) unmarked syllables are underlyingly toneless and are tonally specified via spreading rules, whereas in Thai transcription, unmarked syllables are almost always specified for mid tone, which carries a definite contour. I thank my Thai consultant, Duangkamol Sutthiwari, my Galo consultants Igo Riba, Tomo Riba and Mili Nyodu, and my Mising consultant Ain Doley.

grammatical word), there is evidence that Proto-Tani roots were potentially free. For example, in certain modern Tani languages such as Apatani, verb roots occur unaffixed as predicates with an inherent Perfective aspect (2). Since it is rare, in general, for languages to simply discontinue the use of affixes without leaving so much as a trace, it seems more likely that predication by simple roots represents a conservation, rather than an innovation, in Apatani.

(2) A ŋo lu ŋo iŋ
1.SG say.PFV 1.SG go.PFV
'I spoke.' 'I went.'
(Abraham 1985:93, glosses adjusted by this author. Note that syllable tones are present in Apatani, but are not consistently marked in the source)

In addition, polysyllabic lexemes and grammatical morphemes are almost always easily analysable as earlier collocations of monosyllabic morphemes, and while the patterns underlying their composition are generally unproductive in modern Tani languages, cross-language variation suggests proto-compositionality, productivity and variability. Consider e.g. 'road' (PT **lam*), with the modern Mising, Apatani, and Lare Galo forms *lambə, lenda,* and *bədáa* respectively (with the cognate-root patterns *A-B*, *A-C* and *B-C* in order). Or compare the Paglo Mising postposition *tolokə* 'from eastward' with Galo *tə̀* 'Demonstrative (upward)', Apatani *lo* 'Instrumental postposition' and Apatani *kɨ* 'Genitive postposition'.[4] Numerous examples such as these may be found.

2) *Easily reconstructible morphology*. Modern Tani languages exhibit a dizzying array of grammatical morphemes, most of them suffixes. However, the majority are easily reconstructible to lexical roots which either continue to occur in the same language or can be found in another Tani language. For example, Lare Galo Applicative suffix *-rɨ́k* has no lexical counterpart in Galo, but is easily relatable to the Paglo Mising verb root *rɨk-* 'meet'. Furthermore, unpredictable sound changes potentially associated with grammaticalisation (such as erosion) are found only rarely. Both of these facts suggest relatively recent development from lexical roots.

3) *Lack of irregularities.* There are few if any morphophonological alternations, inflection classes or paradigmatic irregularities in modern Tani languages that could serve to support reconstruction of earlier affixal morphology.

4) *Lexical tone*. Although a firm statement on the reconstruction of lexical tones to Proto-Tani awaits adequate documentation of tones in an Eastern Tani language, comparative Western Tani data analysed to-date supports reconstruction of tones at least to Proto-Western-Tani (Post 2005). However, segmental correspondences are not suggestive of tonogenesis at that stage, indicating that tones may well be reconstructible to Proto-Tani. Within Western Tani, despite the often large number of syllables that may make up a phonological word, the underlying tone bearing unit is always a monosyllabic lexical root or grammatical morpheme which is reconstructible to an earlier lexical root.

5) *Simple segmental phonology/syllable structure*. In contrast with some nearby TB languages such as Sherdukpen or Mizu Mishmi, Tani languages have a simple segmental

4 The 'east' ↔ 'up' correspondence is explained by the fact that the pan-Tani deictic frame, which operates on motion verbs as well as locational postpositions and demonstratives, experienced a shift in Mising from 'up' -- 'down' to 'east' -- 'west'. This correspondence probably has nothing to do with the rising and setting sun, but relates instead to the fact that the Mising historically migrated from the uplands, where the system evolved, to the plains, where no mountains (or even many small hills) are present – but where the Brahmaputra river, the overwhelmingly dominant feature of life on the plains, flows from east to west.

phonology and core syllable canon. Sun (1993) reconstructs voiced and voiceless stops and voiced nasals (labial, coronal, palatal and velar), in addition to voiced and voiceless fricatives (labial, coronal, palatal and glottal), three approximants, and seven vowels. The basic syllable canon $(C_i)(G)V_1(X)[T?]$[5] is preserved by most modern Tani languages, although many have lost the medial approximants *-*j*- and *-*r*- (and *-*w*-, if it existed), most have lost or merged a number of proto-onsets and proto-rhymes, a few west-central languages such as Pugo Galo, Hills Miri and possibly Nyishi have, due to lexicalisation of a widespread process of word-final short vowel deletion in that area, innovated both voiced coda consonants and a previously nonexistent syllable type with the structure (C)VVC, and some (such as at least some varieties of Mising) have apparently lost tones, if indeed tones occurred at the Proto-Tani stage.

In sum, the morphological and phonological facts both support a view of Proto-Tani as a likely morphosyllabic language.

3.3. Shift to greater synthesis/agglutination

As already noted in passing, most modern Tani languages are characterised by a predominance of bound rather than free forms and a wide array of grammatical suffixes and enclitics. In the following Paglo Mising sentence, the string of morphemes forming the predicate is a single word according to phonological and grammatical criteria.

(3) M ŋo gɨladakkubon?

ŋo gɨ-la-dak-ku-bo-n

1.SG go-ABIL-IMMD-CMPL-IRR-PQ

'Can I go now (having finished the work)?'

In addition to the morphological facts, we can also note that data from historical sound changes suggest an increase in sensitivity to the word rather than the syllable as the basic prosodic unit. For example, in a probably related series of early Western Tani Palatalisation changes, bilabial and velar onsets palatalised before front vowels and glides (e.g. PTS **bi* > Lare Galo *zí-* 'give', and PTS **ken* > Lare Galo *cèn-* 'know'); these changes affected every qualifying syllable in a language which underwent them. By contrast, in many later changes, such as Final Vowel Weakening in Lare Galo (in which word-final PG **-a* and **-ɨ* reduce to *-ə*), the domain was the word rather than the syllable (e.g. PG **tabɨ* > Lare Galo *tabə́* 'snake', but cf. Lare Galo *bɨrə́m* 'python' in which the word-initial root retains the proto-vocalism). Thus, while early sound changes introduced opacity between languages, they preserved the phonological integrity of monosyllabic roots within a given language. However, later changes began to introduce opacity among instantiations of the same root within a given language, which reflected an increase in the basic status of complex polysyllables over simplex monosyllables in the Tani lexicon.[6]

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5 C_i = initial consonant, C_f = final consonant, G = medial approximants /r/, /j/ and possibly also /w/, X = V_1 **or** C_f, and [T?] = possible tone.

6 Many of the word-level sound changes we find seem to be motivated by or at least related to the occurrence of a trochaic metrical foot in at least some of the languages in which they are observed (e.g., in my data, the Lare and Pugo dialects of Galo, Paglo Mising, Pasigat Minyong and Hills Miri). It is very possible that the rise of a word-stress system in Tani languages in itself explains many of the phenomena we are here associating somewhat diagnostically to a shift in morphological typology (see e.g. Donegan and Stampe (1983; 2004) for related discussion). However, in absence of almost any data at all relating to the prosodic systems of other Tani languages, we cannot at present do more than speculate about the nature of Proto-Tani prosody and developments since then.

4. EVOLUTION OF THE TANI LEXICON

4.1. Roots versus words

Tani roots are almost always monosyllabic. In §3.2, we argued that monosyllabic roots probably patterned as independent words and/or in productively-formed collocations at the Proto-Tani stage. However, in most modern Tani languages roots are bound, and cannot in general occur as underived lexemes.

4.2. Major lexical classes

In many modern Tani languages, the major lexical classes found are noun, adjective and verb. They may differ from language to language in their alignment and/or the extent to which they are distinct,[7] however in Lare Galo we can identify a clear three-way distinction on the basis of behaviour in predicate environments: nominals are supported by an uninflecting copula, but cannot take aspect-marking (4); verbs take aspect-marking, but cannot occur with a copula (5); adjectives are predicated under either condition, with a minor semantic difference (6). Figure 3 schematises this arrangement.

(4) G	əgə̀	ikiə̀	*əgə̀	ikîidu
	əgə̀	ikìi = əə	əgə̀	ikìi-dùu
	DST.IND	dog=COP.IPFV	DST.IND	dog-IPFV
	‘it’s a dog’			

(5) G	əgə̀	jubdù	*əgə̀	jubə̀
	əgə̀	jùp-dùu	əgə̀	jùp = əə
	DST.IND	sleep-IPFV	DST.IND	sleep=COP.IPFV
	‘it’s sleeping’			

(6) G	əgə̀	adəkə́	əgə̀	adəkdù
	əgə̀	adə́k = əə	əgə	adə́k-dùu
	DST.IND	different=COP.IPFV	DST.IND	different-IPFV
	‘it’s different (appraising a present state-of-affairs)’		‘it’s different (now, and in general)’	

7 Sun (2003), for example, claims that adjectives are a subclass of verb throughout Tani on the basis that in some Tani languages (mainly of the Western branch) adjectives are, like verbs, predicated via uninflecting auxiliaries. However, later examples suggest that the same uninflecting auxiliary also supports a nominal predication (Sun 2003: ex.1, 9, and 22), leaving uncertainty as to what, in fact, distinguishes any one word class from any other. While it is certainly possible (and indeed likely) that at least some Tani languages either retain or have renovated a Proto-alignment of verb-adjective in opposition to nouns in predicate environments (at least), the case has yet to be convincingly made.

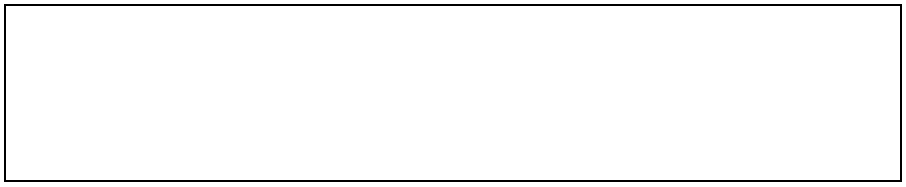

Figure 3. Tests for identifying major word classes in Galo

Non-derived adverbs are not well-attested in Tani. Most commonly adverbial concepts are coded either by derivational verb suffixes (7), or by adverbials derived from adjectives (8). However, a small number of time nouns have adverbial functions in at least some Tani languages, and could well be described as an emergent adverb class (9).

(7) G ŋunù tolò inmênrə
ŋunù tolò ín-mèn-rə́
1.PL LOC.UPgo-AS.PLAY-IRR
'We'll go for a walk (to) up there.' (lit. 'We'll go playfully (to) up there')

(8) G aləbə́ intòla dêi!
alə́=bə́ ín-tó-làa dêi
good=AVZR good-IPTV.ODIR-NF HORT
'Go safely!'

(9) G ŋunù hilò tolûu inmênrə!
ŋunù hilòo tolûu ín-mèn-rə́
1.PL today LOC.UP.EXT go-AS.PLAY-IRR
'Today we'll go for a walk (to) waaaay up there!'

The following sections describe the evolution of the major lexical classes in more detail. The data are mainly from Lare Galo; however, similar structures are found in most other Tani languages for which adequate data exists.

4.3. Evolution of the nominal/adjectival lexicon

Most Tani languages – particularly those of the Western branch – preserve at least a few simplex monosyllabic nouns and adjectives, such as Apatani *si* 'urine' and *khɨ* 'six(th)' (Abraham 1987: 99, 30) and Bokar *loo* 'day' and *hum* 'three' (Ouyang 1985: 58, cited in Sun (2003)). However, the overwhelming majority of nouns and adjectives in all Tani languages are disyllabic, with the relatively small number of monosyllables usually analysable as etymologically complex. In Lare Galo, only two undoubtedly simplex monosyllabic lexemes have been found to occur in a lexicon of almost 3000 words recorded to date: *ɲíi* 'human being' and *zèe* 'grue (green-blue)'. In Paglo Mising, no simplex lexemes have yet been found.

Disyllabic nouns and adjectives are always etymologically complex, with the following types of pattern underlying their composition:

1. prefixed root
2. root-root compound
3. class term-root compound
4. class-prefixed root

It is also common to find quadrisyllabic compounds of the following types:

5. two-term compounds (in which "term" indicates one of types 1-4)
6. "expressive" compounds

Finally, a relatively small number of trisyllabic time nouns occur, with semantic values such as "three days ago" or "four years from now".

7. trisyllabic time nouns

We will next discuss and exemplify each of these seven types.

4.3.1. Prefixed roots

Prefixed roots consist of a single lexical root, plus one of three fairly abstract prefixes **ta-, *ja-* or **a-*. The proto-functions of these prefixes are difficult to reconstruct, although differential lexicalisations of prefixed roots in some languages suggest productivity at the Proto-Tani stage. In the modern languages, *ta-* is found mainly on nouns denoting insects, lower animals and other objects of the natural world (mostly, but not necessarily, small in size or diminutive in nature), as well as physical properties relating to such natural objects. It also occurs as a "nicknaming" prefix to the given name of a male child,[8] when addressed by his parents or other elders, as well as in other terms relating to males or to human beings more generally. Table 1 exemplifies the distribution of *ta*-initial terms in Lare Galo; the first two columns give common nouns or adjectives, while the third consists of terms relating to human males. Note that since prefixes are not underlying Tone-Bearing Units (TBU) in Galo, the tone of a word consisting of a *ta*-prefixed root is a direct projection of the underlying root tone.

Term	**Gloss**	**Term**	**Gloss**	**Term**	**Gloss**
tajúm	'damp(ness)'	taín	'mushroom'	taì	'youngest son'
takèk	'filth(y)'	taɨ́	'hail'	tapúu	'whitey (of male)'
takám	'clay'	taó	'honeybee'	tapɔ́	'nickname of a man named Kenpə'
takár	'star'	tarùm	'scorpion'	taníi	'the father of humankind; the Tani languages and their speakers'

*Table 1. Representative set of terms with *ta- + root composition in Lare Galo*

It may be possible to tentatively reconstruct a proto-value 'Masculine (diminutive)' for **ta-*.

Similar to **ta-*, although considerably less frequent, is **ja-*, which is found on most colour terms, certain diminutive objects, and certain concepts with an air of negativity. It is also found

8 In the Tani cultural-linguistic tradition, the disyllabic name of an individual is composed of a final syllable relating to the individual him- or herself (the **autosyllable**) and an initial syllable derived from the autosyllable of the individual's father (the **patrisyllable**). Hence, *Tanɨ́i* has a son *Niitóo*, *Niitóo* has a son *Toopó*, and so on.

as a nicknaming prefix to the given name of a girl, and some other terms relating to females. It may be possible to reconstruct a proto-value 'Feminine (diminutive)' for **ja-*. Table 2 exemplifies the distribution of *ja-* initial terms in Lare Galo.

Term	**Gloss**	**Term**	**Gloss**	**Term**	**Gloss**
japúu	'white'	jalùk	'chili pepper'	japóm	'fairy; demon'
jamàr	'brown'	jalòo	'slut; sexy'	jaì	'youngest daughter'
jazì	'yellow'	jarɨ́Ãɨ	'starvation'	jatə̀r	'nickname of a woman named Kentər'

*Table 2. Representative set of terms with *ja- + root composition in Lare Galo*

Proto-prefix **a-* is perhaps even more abstract and difficult to trace. It occurs on a very large number of nouns and adjectives denoting common and familiar, perhaps "basic" entities and their properties, such as body part terms, kinship terms, numerals and classifiers in citation form, common cultural artifacts, features of the natural world, physical properties and human propensities. It is common to find modern reflexes of prefixed **a-* changed via harmony with the root nuclear vowel, although the set of affected terms is quite different from language to language, apparently unpredictably so.[9] Table 3 exemplifies a set of **a-* initial terms in Lare Galo. Note again that the prefix is not an underlying TBU, and the word tone directly reflects the tone of the lexical root.

Term	**Gloss**	**Term**	**Gloss**	**Term**	**Gloss**
alák	'arm including hand'	akò	'old.INAN'	akèn	'one; same'
alə̀	'leg including foot'	ikìi	'dog'	akòp	'dent(ed)'
adín	'meat'	udúu	'bamboo section'	acì	'(in) pain'
abó	'father'	isì	'water'	aɲɨ́ɨ	'shy(ness)'

*Table 3. Representative set of terms with *a- + root composition in Lare Galo*

It seems clear that PT **a-* is relatable to one or both of the prefixes *a-* and *ʔa-* found widely in Tibeto-Burman languages of the greater Eastern Himalaya such as Lepcha, Meithei, Ao Naga, Chin and Burmese, as well as elsewhere, as discussed in particular by Wolfenden (1929: 71-73) and Lehman (1975), among others. However, unlike in some of these languages, in most modern Tani languages its productivity is extremely limited; in most cases, it can only be described as the initial vowel of an unanalysable lexeme.

However, one small but possibly telling area of the grammar in which a measure of productivity is retained is in the classifier system. Unlike most nominal and adjectival roots, which are not independently productive, classifier roots enter productively into construction with numeral roots and a small handful of core adjectival roots to form disyllabic 'classifier expressions' such as Lare Galo *ikì dór-ɲì* 'dog CLF:4.LEG.ANIMAL-two' 'two dogs' and *ikì dór-tə̀* 'dog CLF:4.LEG.ANIMAL-big' 'big dog'. The citation form of a classifier, which may be used either alone with individual reference or in construction with a higher numeral, takes a prefix *a-*, as in *adór* 'a four-legged animal' or *abór* 'a spread-out thing' (< *bór-* 'CLF:SPREAD'). Unlike

9 Cf. Lare Galo *isì* versus Paglo Mising *asi* 'water', or Apatani *òhò* 'child' (Abraham 1987: 21) versus Lare Galo *aò* and Bokar *aho* (Sun 1993: 109).

common nouns, the *a*-prefix of a classifier never appears to undergo harmony with the root syllable nucleus, which presumably reflects its active, productive status. As the previous translations suggest, the resulting word denotes an individual of a given semantic type, rather than, e.g. the semantic type itself (construed as an abstract concept).[10] It may be that the proto-function of **a-* as a prefix to common nominal roots had a similar sort of individualising function.

As for **a*-prefixed adjectives, it is possible that they developed out of a similar type of concretisation operation which derived adjectives from verbs. A number of verb/adjective pairs exist in modern Tani languages which serve to support such a notion, such as Lare Galo *adɨ́k* 'irritation/irritating' and *dɨ́k-* 'irritate', and *arék* 'sharp (of the edge of a blade)' and *rék-* 'be sharp (of a blade)'; however, the derivation, if that is what is was, no longer appears to be productive.

It is important here to underline the fact that in themselves, **a*-prefixed adjectives do not denote individuals with a given property, but rather denote the property itself. Thus, if indeed an 'individualising' function such as that found on Tani classifiers, as well as among deverbal or deadjectival nouns in Southern Chin (Lehman 1975: 29), can be reconstructed to Proto-Tani or a near ancestor thereof, its dissolution in most areas of the nominal/adjectival lexicon seems to have occurred soon thereafter.

4.3.2. Root-root compounds

Root-root compounds are found with great frequency among nouns and adjectives alike. The usual pattern underlying their formation is a classificatory Generic-Specific one, in which the first term identifies a semantic type of entity or condition, and the second a kind or manner of the type (Table 4). Thus, *dùm-* in *dumpìn* invokes a Generic class of entities of the semantic type 'deer' (or 'things to do with deer'), and *pìn-* 'skin' then narrows the reference. Similarly, *bée-* in *beehòr* invokes the type 'things to do with monkeys' while *hòr-* 'length/long' fixes the kind. Although this sort of patterning shares much in common with the "taxonomic" compound patterning commonly found in the languages of Southeast Asia, it is important to note that the Tani pattern is not reducible to an "order of modification" MOD-H (or H-MOD) as many patterns described as taxonomic appear to be. Although the "order of modification" in terms like *dumpìn* and *beehòr* would appear mixed (since *dumpìn* is a 'kind' of skin, but *beehòr* is a 'kind' of monkey), the fact is that the concepts of headship and modification simply do not apply to the composition of Tani compounds. For further discussion, see Post (in progress).

In Galo, the tone of a root-root compound is derived from the underlying tones of its constituent roots, according to the following patterns: HH → H, HL → L, LH → L, LL → L (with an infrequently-occurring Rising-Falling tone also patterning like Low). The resulting High, Low, or (more rarely) Rising-Falling tone is realised as a surface contour over the domain of the phonological word.

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10 An alternative formation in which the classifier root is compounded to the numeral root *ke`n-* 'one' as in *dorke`n* or *borkèn* have almost the same semantic value as *adór* or *abór*, although the former are somewhat preferred when enumerating, or when the individual status of a referent is being profiled and/or contrasted with a quantity.

Compound		**Root 1**		**Root 2**	
Term	**Gloss**	**Term**	**Gloss**	**Term**	**Gloss**
dumpìn	‘deerskin’	dùm-	‘deer’	pìn-	‘skin’
beehòr	‘langur’	bée-	‘monkey’	hòr-	‘length/long’
dumpúu	‘white hair(ed)’	dúm-	‘head (hair)’	púu-	‘white’
hibùu	‘river’	hì-	‘water’	búu-	‘pipe’

Table 4. Composition of selected Lare Galo nominal/adjectival root-root compounds

4.3.3. Class term-root compounds

“Class term” is used here in the sense of DeLancey (1986, citing Haas) with reference to the Thai system of nominal classification. In Thai as in Tani, class terms act as the Generic element in a Generic-Specific compound template. They are distinguished from ordinary Generic compound elements in Thai for three reasons: 1) frequency 2) productivity and 3) frequent ability to function as Classifiers. In (10), the class term *ráan* – which, like most Thai class terms, has the ability to stand as a free noun with the same semantic value – is “repeated” as the classifier for the compound *ráan-ʔaahăan*.[11]

(10) T ráan-ʔaahăan săam ráan
shop-food three CLF:SHOP
‘three restaurants’ (lit. ~ ‘three shops of restaurant’)

In Tani, class terms are frequent, and function as Generic elements to a usually large number of compounds. Their productivity in modern Tani languages is limited, in the sense that the compounds in which they occur are not in general actively formed; however, based on frequency of occurrence in the modern languages we can perhaps assume a formerly high productivity. Table 5 illustrates a lexical set organised around the class term *lɨ̄ɨ-* ‘stone’. In the interest of space, the individual roots are not glossed. Note also that class terms are like (other) compounded roots, and unlike prefixes, in being underlying TBUs.

Term	**Gloss**	**Term**	**Gloss**	**Term**	**Gloss**
lɨ̄ɨcàk	‘pebble’	lɨ̄ɨpùu	‘marble’	lɨ̄ɨkər	‘turquoise’
lɨ̄ɨmɨ́k	‘gravel’	lɨ̄ɨnə	‘boulder’	lɨ̄ɨcùm	‘jade’
lɨ̄ɨmìk	‘algae’	lɨ̄ɨpùm	‘stone pile’	lɨ̄ɨpə	‘sharpening stone’
lɨ̄ɨtàk	‘giant boulder’	lɨ̄ɨtòr	‘hard stone’	lɨ̄ɨkə	‘onyx’
lɨ̄ɨkàa	‘igneous rock’	lɨ̄ɨjàa	‘soft stone’	lɨ̄ɨcɨ́k	‘cooking tripod’

Table 5. Lare Galo Lexical set based on the class term lɨ̄ɨ- ‘stone’

Tani languages vary in the extent to which class terms feed into their classifier systems. In the Galo example (11), the root *pɨ́-* ‘egg; globe’ occurs as both Generic and Specific elements of the compound noun ‘egg’ (final *-ɨ́* has undergone a regular process of Word-final vowel

11 For related discussion, see Hundius and Kölver (1983) and Post (in press-a).

weakening postdating the Proto-Galo stage). The same etymological root then classifies the noun; note that this is essentially the same pattern as in the Thai example (10). However, (12) shows that the pattern is not productive at least in Galo; nor is it productive in Mising. However, there are indications that in Apatani, the classifier system **can** be expanded in precisely this way (Abraham 1985: 65-66); further research must establish the extent to which the Apatani construction is truly productive.

(11) G pɨpə pɨúmgo

pɨpə pɨ-úm = go

egg CLF:GLOBE-three=IND

'three eggs'

(12) G lɨɨkə pɨúmgo *lɨɨkə lɨúmgo

lɨɨkə pɨ-úm = go

onyx CLF:GLOBE-three=IND

'three pieces of onyx'

4.3.4. Class prefix-root compounds

A relatively small number of compound initials appear likely to have at one time occurred as class terms, but are not easily reconstructible to a lexical root source. They are best considered prefixes, and like the prefixes discussed in §4.3.1 they are not underlying TBUs; also like prefixes, they are sometimes found to have been subject to vowel harmonisation with the root syllable nucleus. Nevertheless, the common semantics of the terms in which they appear are in most cases transparent, and in this respect they more closely resemble class terms. Examples from Lare Galo are *ho-* '4-legged animal prefix' (< PT **sV-*, prob. < PTB **sya* 'flesh' (Matisoff 2003: 651)), *pə-* 'bird prefix' (< PT **pV-*, prob. < PTB **bya* 'bird' (Matisoff 2003: 641)), *doo-* 'heaven(ly) prefix' (< PT **doŋ-*) and *kVV-* 'flavour prefix' (poss. < PTB **ka* 'mouth' (Matisoff 2003: 659)). Table 6 exemplifies a set from Lare Galo.

Term	Gloss	Term	Gloss	Term	Gloss
hobìn	'goat; takin'	pəzàp	'duck'	doomùk	'vapour'
hocə́r	'deer'	pəgáa	'great pied hornbill'	kaacàk	'bitter'
hozòo	'flying squirrel'	dooŋí	'sun'	kuucùk	'sour'
pətáa	'bird'	doogúm	'storm; thunder'	keebèk	'starchy'

Table 6. Class-prefixed roots in Lare Galo

4.3.5. "Larger" compounds

In this section, we briefly discuss two-term compounds, "expressive" compounds and trisyllabic compounds.

Two-term compounds are essentially compounds of compounds; i.e. they contain two terms from one of the four types discussed above. Two-term compounds may be **asymmetrical**, following the Generic-Specific patterning also found in root-root compounds, or **symmetrical**, in

which both terms are Specific, and relate to a Generic concept which is the denotation of the whole. Such structures are also sometimes described as "coordinative" compounds.

"Expressive" compounds formally resemble two-term compounds. However, while the first term is generally analysable, the second term consists of a semi-reduplication of the first term, and has no independent semantic value. These may be compared to the "elaborate expressions" found in many morphosyllabic languages (Matisoff 1988: 39).

Finally, trisyllabic compounds are found among time nouns with a complex reference such as "three days ago" or "four years hence".[12] The compositionality of many of these is difficult to completely analyse at present.

Table 7 exemplifies these three "larger" compound types in Lare Galo.

Two-term compounds		**Expressive compounds**		**Time nouns**	
Term	**Gloss**	**Term**	**Gloss**	**Term**	**Gloss**
îs-hilàə	'lake' ('water'-'deep section of river')	abûk-arùk	'skin flareup' ('pod'-'x')	keŋkəɲɨɨ	'three years ago'
ác-abó	'mature man' ('elder bro.'-'father')	acên-arèn	'be decided' ('believe'-'x')	kendaɲɨɨ	'four years ago'
hottúm-horə́	'wild animal' ('bear'-'boar')	akîn-amìn	'muddled' ('messy'-'x')	kendalòo	'four days ago'

Table 7. "Larger" compounds in Lare Galo ("x" indicates "no independent meaning")

4.3.6. Compounds, prefixed roots and the cline of semantic generality

It is possible to analyse Tani compounds and prefixed roots in terms of a *cline* of semantic generality, from more particular on the one side, to more general on the other. On the first side are two-term compounds, which are high in semantic particularity, unlikely to have a large number of exemplars, and may represent an actively-formed collocation. On the other side are prefixed roots, in which a highly abstract prefix with earlier functionality and a consequently large number of exemplars is now frozen in lexical representations together with any sound changes that pertained to it. In the middle are terms at intermediate stages of loss of semantic particularities and productivity, and phonological integration.

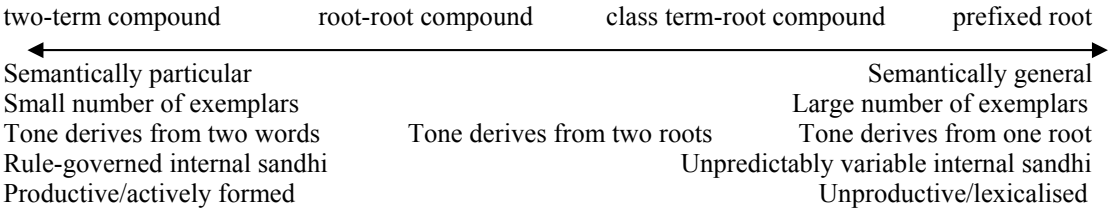

Figure 3. Cline of semantic generality and productivity in nominal/adjectival compounds and prefixed roots

12 Time nouns in Tani operate on a base eight system, in which the "present" is a shifting deictic center, and up to seven units (days, nights, or years) are counted forwards or backwards thence.

4.3.7. Zero derivation among nouns and adjectives

Perhaps due to their parallel evolution and strong formal resemblance, zero-derivation among nouns and adjectives in Tani languages such as Galo and Mising is straightforward. Often, it is all but impossible to determine whether the nominal or the adjectival form is the more "basic" (13-14).

(13) G êe! adɨggó!
ee adɨ́k = go
DISM irritation=IND
'Wah! What a bother!'

(14) G hɨgɨ́ maazîb adɨgdù.
hɨgɨ́ maazî = bɔ́ adɨ́k-dùu
PRX.IND very=AVZR irritating-IPFV
'This is really burning (of a wound).'

4.4. Evolution of the verbal lexicon

Verbs in Tani underwent a quite different set of developments to those of Tani nouns and adjectives. Although, in general, a similar shift from basic monosyllabism to basic polysyllabism appears to have occurred, the trend was not toward compounding of verb roots according to a Generic-Specific pattern (or any other sort of pattern). No verbal prefixes whatsoever appear to have been attested in any Tani language to date, and few if any compound verbs are found. Instead, an asymmetry developed between **verb roots** on the one hand and a wide variety of **verbal suffixes** on the other. Although a full exposition of the set of verbal suffixes available even for a single Tani language well exceeds the scope of this paper, it is possible to draw a preliminary division between suffixes with derivational and inflectional functions.

Inflectional suffixes may occur distant from the root, and code functions related to aspect, modality, and finiteness. We will not be concerned with these further in the present paper. Derivational suffixes, with which we will be concerned here, are common and plentiful in all adequately-described Tani languages. Occurring directly adjacent to a verb root and forming a usually disyllabic word with it, derivational verb suffixes may be easily mistaken for compound elements; however, whereas root-root compounding is generally unproductive in modern Tani languages, derivational verb suffixes are always highly productive, and occur on any semantically compatible root. Furthermore, although many derivational verb suffixes are semantically rich, many have no modern cognate verb root. Although it is possible – and indeed, likely – that much variation is found among the derivational verb suffixes of various Tani languages, the system itself as it is described here appears to be shared among Mising, Galo, and Apatani, representing Eastern, transitional Western, and Western Tani respectively, and can therefore perhaps be safely set forth as a prototypically Tani system.

4.4.1. Derivational verb suffixes – functions

As noted above, derivational verb suffixes code a wide array of functions in most Tani languages. Most of these comfortably fall under one of the following types:

1) class change (nominalisation, adjectivalisation)
2) valence change (redistribution, increase)
3) adverbial modification (manner, result, direction)
4) aspectual modification

We will treat these types in order, again using data from Lare Galo to illustrate.

4.4.1.1. Class change derivations

A large number of suffixes perform nominalisations, and an even larger number are adjectivalisers. All are semantically rich, and may have other functions in addition to class change. Example (15) illustrates use of the 'reason (for)' nominaliser *-dín*, while (16) exemplifies the adjectivaliser *-kèn* 'good/easy (to)'; recall from (5) that copular predication is possible for adjectives but not verb roots; without an adjectivaliser such as *-kèn*, (16) would be ungrammatical.

(15) G nók əmbə̀ mendinə̀ jôoə la?
nó-kə̀ əmbə̀ mèn-dín=əə jôo=əə la
2.SG-GEN like.that speak-NZR:REAS=TOP what=COP.IPFV CQ
'What's the reason for your talking like that?'

(16) G aré! dokènə!
aré dó-kèn=əə
SURP eat-AZR:GOOD=COP.IPFV
'Wow! It's actually tasty (I expected it would not be)!'

4.4.1.2. Valence change derivations

Valence changing suffixes may increase or decrease the number of arguments required or supported by a verb root, or reassign the semantic roles which would ordinarily obtain to them. In (17), the 'insert' Applicative *-lɨ̀k* adds a goal argument to the frame of the transitive verb *mín-* 'chase', understood as a location into which the O argument referent is manipulated.[13] In (18), the Argument Reversal suffix *-kò* causes the default semantic role assignment of *tùp-* 'headbutt' (A → Agent, O → Patient) to be reversed; note that this is *not* in fact a passive, since the syntax is not in any way affected.

(17) G howwə́m minlɨ̂ktok!
hoə́=əm mín-lɨ̀k-tó-k
cattle=ACC chase-APPL:INSERT-IPTV.ODIR-ADM
'Drive the cows into there!'

13 Although the goal argument is covert, its underlying existence is clearly inferred; without *-lɨ̀k*, the sense of (17) would be 'catch up with the cows!'

(18) G mərò, bədaaló nennəmə̀,

mərò̀o bədáa = lo nèn-nam = əə

yesterday road=LOC exit-NZR.PF=TOP

bɨ́ gariəm tupkòto

bɨ́ɨ́ gari = əm túp-kò-tó

3.SG vehicle(<Asm)=ACC head.butt-REV.ARG-PFV

'Yesterday, he was just stepping out onto the road (when) he was hit by a car.'

4.4.1.3. Adverbial modification

Adverbial modification of a predicate may include providing information concerning the **manner** of the predicated event or state (e.g. 'playfully', as in 19), concerning some **direction** to a predicated action (e.g. 'outward', also 19) or concerning some outcome or **result** (20).

(19) G aló gollo, kobù dorúmgo…

alóo go = lo kobùu dór-úm = go

day IND=LOC rodent CLF:4.LEG.ANIMAL-three=IND

oodôobə immên tabə̀ inlênto.

oodò̀o = bə́ ín-mèn-tà = bə́ ín-lèn-tó

far=AVZR walk-AS.PLAY-INCP=SBRD go-OUT-PFV

'One day, three mice went far away out to take a walk.'

(20) G jôojoəm rɨ́dû, ŋun cencî raakumá.

jôo-jôo = əm rɨ́-duù ŋunù cèn-cì-ráa-kú-máa

what-what=ACC do-IPFV 1.PL know-REACH-ODD.ONE.OUT-CMPL-NEG

'What sort of stuff (you) are doing, we (old folks) don't really understand it anymore.'

4.4.1.4. Aspectual modification

Inflectional suffixes code the majority of aspectual functions on finite verbs. However, derivational suffixes perform a number of aspectual modifications which are unrelated to verb finiteness; Durative, Tentative, Persistive, Iterative, Incipient, and Habitual are among the various aspectual functions derivational suffixes may code. An example of Incipient suffix use in a subordinated verb is found in (19). Example (21) illustrates use of the Durative suffix *-bə́ə* (< PG **bə́ə* 'carry; hold; bear') and the Tentative suffix *-káa* (< PTS **kaŋ* 'look').

(21) G nòk... hocár abnámgo... tuulɨ̂gnamgo

nó-kə̀ hocár áp-nam = go tùu-lɨ́k-nam = go

2.SG-GEN deer shoot-NZR=IND push.with.force-APPL:INSERT-NZR=IND

membə̂ədu, əgə̀m ɨ̀ɨzikáato.

mèn-bə́ə-dùu əgə̀ = əm ɨ́ɨ-zí-káa-tó

say-DUR-IPFV DST.IND=ACC narrate-BEN-TENT-IPTV.ODIR

'You're always talking about your…stag-shooting incident, when you shoved it into (somewhere), go ahead and tell him about that.'

4.4.2. Historical source of derivational verb suffixes

Of the 100-plus derivational verb suffixes attested by Post (in progress) for Galo and by Lorrain (1995 [1910]) for Mising, between 40-60% can be easily traced to lexical roots (almost always verb roots) with the same segmental phonology and underlying tone. For example, the Galo Benefactive suffix *-zí* exemplified in (21) has a verb root counterpart *zí-* 'give'. Also, as discussed in §3.2, even when a source lexeme has obsolesced in a given language, it is often possible to find it in another Tani language, such as Mising *rɨ́k-* 'meet' ⨯ Galo *-rɨ́k* 'Applicative'. Derivational verb suffixes frequently retain many of the semantic characteristics of their lexical source forms, but deploy these productively in the more generalised service of grammatical functions.

It is interesting to note, then, that the serial verbs common to the morphosyllabic languages of Mainland Southeast Asia do this too (Matisoff 1969). Indeed, many of the functions of Tani derivational suffixes recall those of post-head serial verbs in languages like Lahu, Thai and Chinese. Table 8 compares some Galo derivational suffixes with some functionally analogous post-head serial verbs in Thai.

Function	**Galo**	**Thai**	**Gloss**
Manner	*ín-mèn*	*dəən lên*	'stroll (walk as play)'
Result	*dó-ŋám*	*kin (hâj) mòt*	'eat all up'
Direction	*gá-càa*	*piin khɬ̂n*	'climb up'
Valence +	*mèn-zí*	*bɔ̀ɔk hâj*	'tell to/for someone'
Aspect	*ín-bə́ə*	*dəən jùu*	'(be) walk(ing) continuously'

Table 8. Comparison of Galo derivational verb suffixes and Thai post-head serial verbs

In addition, derivational verb suffixes may be found split across iterations of a verb root. Together with the "expressive" compounds discussed in §4.3.5, these constructions closely recall the four-syllable "elaborate expressions" of Mainland Southeast Asia; compare the second clause predicate in (22) with one of many similar Lahu expressions, such as *šɛ-phû?-šɛ-ku* 'writhe-turn.over-writhe-RDUP' 'twist and turn' (Matisoff 1988: 1211).

(22) G botolə	takkáaku…	taŋmɨ̂k	taŋmâk káaku!
botol=əə	ták-káa-kú	ták-mɨ́k	ták-màk-káa-kú
bottle(<Eng)=TOP	crack-PF-CMPL	crack-INTO.DUST	crack-RDUP-PF-CMPL

'The bottle broke…smashed into a million pieces!'

There is every possibility that the pan-Tani system of derivational verb suffixes originated historically in verb serialisation.

5. CONCLUSION

In this paper, I have tried to do two things: first, I have tried to show that the Tani languages appear likely to have had an essentially morphosyllabic past, but that they have, in general, shifted toward greater synthesis and agglutination (albeit in different ways and to different degrees). Next, I tried to outline how this change appears to have structured the lexicon such that while nouns, adjectives and verbs are synchronically represented as three distinct classes (at least in some modern Tani languages), nouns and adjectives share some common structural and behavioural characteristics which are not shared by verbs.

This is potentially an interesting alignment, because we are perhaps more used to adjectives in the languages of almost all of Asia being more closely aligned to verbs. However, it's also potentially explainable. Many of the languages for which adjectives are claimed to occur as a subclass of verbs are morphosyllabic languages; as such, they tend to lack well-grammaticalised material that could serve to grammatically mark what are after all semantically-based class-distinctions (Dixon 2004). The progressive lexicalisation of prefixed expressions may have in part enabled structural expression of an adjective-verb opposition which is already incipient in many morphosyllabic languages (see e.g. Post (in press-b) for a description of adjectives in Thai), and the result is a fairly stratified lexicon. In some modern Tani languages, adjectives may be moving closer to verbal status again, particularly in those languages which lack a copula which is not homophonous with the pan-Tani Imperfective suffix *-duuŋ* (< PTS **duŋ* 'sit'). But that's another story.

ABBREVIATIONS

1	First person
3	Third person
Asm	Assamese
ABIL	Abilitative
ACC	Accusative
ADM	Admonitive
APPL	Applicative
AVZR	Adverbialiser
AZR	Adjectivaliser
BEN	Benefactive
CLF	Classifier
CMPL	Completive
COP	Copula
CQ	Content question
DISM	Dismissive
DST	Distal demonstrative
DUR	Durative
Eng	English
EXT	Extensive
GEN	Genitive
H	High tone
HORT	Hortative
IMMD	Immediate
INAN	Inanimate
INCP	Incipient
IND	Individuative
IPFV	Imperfective
IPTV	Imperative
IRR	Irrealis
L	Low tone
LOC	Locative
NEG	Negative
NF	Non-finite
NZR	Nominaliser
ODIR	Outward (non-self) directed
PF	Perfect
PFV	Perfective
PL	Plural
PQ	Polar question
PRX	Proximate demonstrative
REAS	Reason
RDUP	Reduplication
REV.ARG	Reverse core argument roles
SBRD	Subordinator
SFOC	Sequential focus
SG	Singular
SURP	Surprise
TENT	Tentative
TOP	Topic

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